

PMH46

ASSESSING THE CROSS-CULTURAL COMPARABILITY OF THE CENTRE FOR EPIDEMIOLOGIC STUDIES DEPRESSION SCALE (CES-D)

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OBJECTIVES: The Centre for Epidemiologic Studies Depression Scale (CES-D) is one of the most widely used depression questionnaires; it has been translated into many languages and is frequently used in multi-national studies. This research sought to examine whether different language versions of the CES-D were affected by country (cultural)-related differential item functioning (DIF). **METHODS:** CES-D data were available from depressed patients in the UK ($n = 177$), US ($n = 100$), Germany ($n = 78$) and France ($n = 124$). The data were pooled and applied to the one-parameter Rasch item-response model for analysis and to identify cross-cultural DIF. **RESULTS:** The UK and German CES-D did not fit the Rasch model ($\chi^2 p < 0.001$) suggesting that summation of item scores in these countries is not justified. Four items in the UK (including 2 of the 4 positively worded items) and 2 items in Germany misfitted. The US CES-D exhibited borderline overall misfit to the Rasch model ($\chi^2 p < 0.01$) with no item misfit and the French data fitted the Rasch model (with 1 item misfitting). The pooled data from the 4 countries did not fit the Rasch model ($\chi^2 p < 0.001$) and DIF was observed in 7 items (including all of the positively worded items). DIF between the US and UK (5 items), the US and Germany (5 items) and US and France (4 items) was greater than that between UK and Germany (1 item), the UK and France (2 items) and Germany and France (3 items). **CONCLUSIONS:** CES-D data from these countries cannot be pooled justifiably without first accounting for DIF by culture. DIF appeared to be greater between the US and Europe than within European countries. In addition, the use of both positively and negatively worded items in a questionnaire may introduce bias.

PMH47

MEASURING RELAPSE AFTER ADOLESCENT SUBSTANCE ABUSE TREATMENT: A PROPORTIONAL HAZARD APPROACH

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OBJECTIVES: Cox regression is used to analyze relapse patterns of adolescents treated for psychoactive substance use disorder (PSUD). The objective is to evaluate the role numerous psychosocial, treatment and environmental characteristics play in the relapse process in this treatment population. It is clear that the PSUD disease and recovery process are unique in adolescents and that relapse and recovery need rigorous study. Relapse is the most important treatment outcome. **METHODS:** Subjects are 509 adolescents discharged from an ASAM-defined Level 1. A primary inpatient treatment program from 2001–2005. Data was collected as part of the treatment program's annual outcomes evaluation. The sampling frame was all who successfully completed treatment. Response rate was 61%. Analysis of characteristics of nonrespondents showed no significant differences compared to respondents. The survey is based on a 230-item questionnaire. Treatment records of each adolescent completing the questionnaire were obtained for matching treatment outcomes from the questionnaire to treatment and sociodemographic variables contained in treatment records. A comprehensive data set was created from these two sources. Data were analyzed using Cox proportional hazard regression. **RESULTS:** Results indicate race (Whites were 59.2% less likely to relapse than other races; blacks are 4.9 times more likely.), gender (males

1.28 times more likely), participation in support groups (participants 23.7% less likely), school attendance (attendees 21.6% less likely), supportive friendships (one SD change on scale corresponds to a 7.7% reduction in relapse risk), and cannabis dependence (cannabis diagnosis 28.7% more likely) are significant determinants of relapse, *ceteris paribus*. **CONCLUSIONS:** Several risk factors for relapse are identified that can be addressed in primary treatment. For instance, treatment programs emphasizing friendships skills by application of social cognitive theory might be considered.

OBESITY

POBI

ASSESSMENT OF THE CLINICAL RISK FACTORS FOR METABOLIC SYNDROME IN A NATIONAL PRIMARY CARE ELECTRONIC HEALTH RECORD (EHR) DATABASEBrixner D¹, Said Q¹, Oderda GM²¹The University of Utah College of Pharmacy, Salt Lake City, UT, USA,²University of Utah, Salt Lake City, UT, USA

OBJECTIVE: Metabolic syndrome is the constellation of central obesity, dyslipidemia, impaired glucose tolerance, and elevated blood pressure (BP). We analyzed the components of metabolic syndrome via EHR databases. **METHODS:** Ambulatory electronic health record data for 3,301,897 patients included demographics, vitals, labs, drugs and payment types from the GE Centricity EMR research database. The study period was January 1, 2003 to December 31, 2004. Patients aged 18 to 64 years with any indicator of cardio-metabolic risk were identified by clinical (biometrics), diagnosis (ICD-9 codes) or treatment (prescriptions) information. **RESULTS:** The final study population was 475,651 patients after patients with bariatric surgery or body mass index (BMI) $> 35 \text{ kg m}^2$ were excluded. The total of 266,371 (56%) patients had BP as a risk factor. A total of 162,521 (34.17%) had BMI as a risk factor. When the patients excluded for morbid obesity were included this rose to 43.8%. Triglycerides (TG) were identified as a risk factor in 10.74%, high density lipoproteins (HDL) in 15.99%, impaired fasting glucose in 8.83%, diabetes in 7.22% and metabolic syndrome (diagnosis) in 0.12%. All risk factors, except HDL had values for all three definitions (clinical, treatment and diagnosis) of metabolic syndrome. Of these, out of range BMI values were primarily established by the clinically-based BMI definition (33.34%) with the diagnosis and treatment definitions identifying less than 2%. Over 50% of the patients with elevated BP were identified clinically while treatment and diagnosis-based definitions identified only 18% and 7% of the patients with elevated BP, respectively. Diabetes was more similar across all three definitions (range 2.37%–4.69%). **CONCLUSION:** Distribution of clinical risk factors in a primary care database closely mirrors that established by prospective national health surveys. The key source of identification of risk factors is clinically based biometric information. Studies on metabolic syndrome need to incorporate clinically based information.

POB2

COST-EFFECTIVENESS OF TREATING CARDIOMETABOLIC PATIENTS WITH RIMONABANT (ACOMPLIA®) IN A DANISH SETTINGKnudsen MS¹, Poulsen PB², Serup-Hansen N³¹Muusmann Research & Consulting AS, Copenhagen, Denmark,²Muusmann Research & Consulting AS, Kolding, Denmark, ³Sanofi-aventis, Hoersholm, Denmark

Cardiometabolic risk factors such as type 2 diabetes or dyslipidaemia have become an increasing problem in the developed countries. Rimonabant 20 mg is a novel treatment in conjunction with diet and exercise for obese and overweight patients with associated cardiometabolic risk factors such as type 2 diabetes or dyslipidaemia. In the double blinded RCT RIO-Europe (n = 1508) and RIO-Diabetes (n = 1047), rimonabant was shown to improve weight, waist circumference, HDL-cholesterol, TG, HbA1c and other cardiometabolic risk factors in overweight and obese patients with or without T2DM. The study inclusion criteria correspond to Danish treatment guidelines. **OBJECTIVE:** To analyse the cost-effectiveness of rimonabant as a supplement to diet and exercise in a Danish setting. **METHODS:** A Markov model (RAINBOW), evaluating scenarios of 2 and 10 years of treatment in a Danish setting, was used to evaluate cost-effectiveness based on the RIO-Europe and RIO-Diabetes study. Modelled outcomes were cost per QALY and LYG. Danish cost and epidemiological data were applied. **RESULTS:** Depending on the treatment length (2 or 10 years) and whether the patients were obese with or without diabetes, the cost per QALY gained was between €11,182 and €13,164, while the cost per LYG was between €13,734 and €39,004. These ratios are within the limits which are normally considered to be cost-effective. **CONCLUSIONS:** Rimonabant in conjunction with diet and exercise can be a in overweight or obese patients with dyslipidaemia or type 2 diabetes.

POB3

BURDEN OF ILLNESS OF ABDOMINAL OBESITY: A RETROSPECTIVE CHART REVIEW

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OBJECTIVES: Abdominal obesity is a major risk factor for cardiovascular disease (CVD), diabetes, and related mortality. Little information is available on the economic burden of abdominal obesity. Therefore, the objective of this study was to assess the current medical resource use in patients with abdominal obesity in Belgium. **METHODS:** Data on resource utilization was retrospectively (1/8/2004–31/7/2005) collected by general practitioners (GP) in patients aged ≥45 with abdominal obesity and with either a history of CVD- or diabetes, or either ≥2 CVD risk factors (hypertension, dyslipidemia, impaired glucose tolerance). GPs were selected based on setting (urban-rural) and geographical region (north-south). Cost analysis was performed for the whole sample, and for 2 subpopulations: patients with a history of CVD or diabetes (64%) and patients without a CVD-history or diabetes. Both costs related and not related to obesity were included. The perspective of the health care payer was taken. **RESULTS:** 403 patients were studied. Mean age was 61.2 (St.Err. 0.5), females represented 65.26% of the patients. The overall cost per year for the entire sample was €1758 (St.Err. €129) including all costs related and not related to obesity. Excluding the costs not related to obesity the yearly cost was €995 (St.Err. €90). For the group of patients with a history of CVD or diabetes these costs were €2109 (St.Err. €182) and €1252 (St.Err. €130) respectively. For the subgroup of patients without a history of CVD nor diabetes these costs were €1099 (St.Err. €138) and €534 (St.Err. €82). **CONCLUSIONS:** This retrospective chart review shows that patients with abdominal obesity have a considerable cost, especially in the presence of CVD or diabetes but also if multiple cardiovascular and/or metabolic risk factors are present. Fifty-seven percent of the total cost of care is related to the patient's obesity.

POB4

USING CLAIMS DATA TO UNDERSTAND THE COSTS OF DIFFERENT HEALTH STATES FOR PATIENTS WITH CARDIOMETABOLIC RISK

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OBJECTIVES: In order to evaluate the costs of different health states for patients with cardiometabolic risk, a study was performed to operationalize these health states, to identify individuals from a claims database and assign them to the health states. **METHODS:** Claims data of a German sickness fund with 1.5 million beneficiaries were used for the years 2000 to 2004. Only patients aged 18–80 years were included who were continuously covered by the health insurance during this period. Health states were composed of different attributes (diabetes mellitus with/without micro- or macrovascular complication, hypertension, hypercholesteremia, hypertriglyceridemia, coronary heart disease, obesity), each of them being transposed into appropriate ATC codes or ICD-10 codes (inpatient, outpatient, sick leave diagnosis). Patients were selected from the database according to their health state pattern. **RESULTS:** Out of n = 774,132 beneficiaries (62% male), n = 736,653 (95%) could be assigned to one of the defined health states. Most of them (58%) were allocated to the health state without any of the defined attributes. 27% had 1 to 4 cardiometabolic risk factors, but no diabetes. Four percent had no diabetes, but had already experienced cardiovascular diseases such as myocardial infarction and/or stroke. 6% matched one of the diabetes related health states. **CONCLUSION:** Typical limitations of any analysis performed on the basis of claims data should be borne in mind. These comprise lack of diagnostic accuracy and incomplete knowledge of the patients' case histories and clinical measures for severity of illness. Nonetheless, claims data provide useful information for economic modelling, as they derive from a naturalistic setting and allow an unbiased view on health care delivery and utilization under real-life conditions. This can determine the authenticity of economic models.

POB5

A MODELLED COST-EFFECTIVENESS EVALUATION OF SIBUTRAMINE THERAPY IN A HIGH RISK OBESE POPULATION

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OBJECTIVES: Obesity is a major risk factor for type 2 diabetes, cardiovascular disease and stroke. Moderate weight loss of 5–10% is proven to be beneficial, but often difficult to achieve with diet/exercise alone. The addition of sibutramine can reduce and maintain weight loss through increased satiety and enhanced resting metabolic rate. This study reviews the safety, efficacy and cost-effectiveness of sibutramine with diet/exercise in obese patients. **METHODS:** A patient level analysis was conducted of 23 RCTs of sibutramine with diet/exercise compared with diet/exercise alone. Dichotomous outcomes (proportion of patients losing ≥5% body weight) and multivariate risk factor-adjusted continuous means (BMI, SBP/DBP, HbA1c and lipids) were calculated. Least squares regression models were developed to determine the relationship between BMI change and cardio-